

**Proposal Name:** Environmental & Scientific Analytics Program

**Proposal Priority #:** 5

**Department:** Water Resources

**Revision Date:** Monday, January 12, 2009

## Concept Statement

### Description

**Brief description of the proposed project:**

Provide a common analytic model , spatial framework and data links for hydrologic, economic, environmental, and water management data and studies. For example,

- Bay Delta River, Estuary, and Land Model
- California simulation of the hydrology and water resources system throughout the entire Central Valley
- Simulation of Evapotranspiration of Applied Water
- Bay/Delta and Tributaries Cooperative Data Management System
- Inter-ecological Environmental Program

### Need Statement

**High Level Capabilities Needed:**

Development of coordinated scientific models (advanced numerical algorithms) allows the Department to:

- Evaluate the various project alternatives,(e.g., levees, storage, dams)
- Simulate the water flow through the State Water Project, for example, during a 100 year storm

On a real-time basis, analyze the downstream impact of various water flow release rates and the current precipitation is another example.

**What is Driving This Need?**

- Redundant and ineffective staff work
- Ineffective and incomplete projections
- Model gaps and overlap

**Risk to the Organization if This Work is Not Done:**

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The inefficiencies and out of synch data gaps will continue to exacerbate with the passage of time. For example, the inability to optimally assess both environmental and water supply will hinder the State's ability to respond to climate change, increasing legal pressure for protecting the habitat, and the severe infrastructure issue of the Delta. Many entities in the State rely on the expertise and guidance of the Department to respond to these complex challenges.

## CA - PMM

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## Benefit Statement

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### Intangible Benefits

**Process Improvements** (describe the nature of the process improvement):

Improved data analysis and ability to close data gaps.

**Other Intangible Benefits:**

### Tangible Benefits

**Revenue Generation** (describe how revenue will be generated):

None.

**Cost Savings** (describe how cost will be reduced):

Reduced technology cost to support these programs.

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**Cost Avoidance** (describe the cost and how avoided):

TBD

**Risk Avoidance** (describe the risk and how avoided):

Reduce business decision risk through better defined and applied analytical framework and process

**Improved Services:**

Improves overall state of critical studies for the Department and its stakeholders

### Consistency

"No" Responses		Rationale	Action Required
Enterprise Architecture			Proposal is consistent with EA. No action required.
Business Plan			Proposal is consistent with the Business Plan. No action required.
Strategic Plan			Proposal is consistent with Department's Strategic Plan. No action required.

### Impact to Other Agencies

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### Nature of Impact to Other Agencies

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**Agency:**

*Describe the nature of the impact:*

TBD. After the implementation of the project, it may be of benefit to other State Agencies. We can explore expansion and synergy with other Agencies at that time. However, there are no dependencies on other State Agencies to successfully implement this project.

**Agency:**

*Describe the nature of the impact:*

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### Solution Alternatives

#### Alternative 1:

No specific alternatives have been explored at this time. Solution Alternatives will be developed fully as an integral component of the business justification that will determine the best value solution to meet the business drivers and objectives. NOTE: The Rough Order of Magnitude is estimated at \$1.5 million for the project.

#### Technical Considerations for Alternative 1:

ROM Cost:

to

Note: high end of range must not exceed 200% of low end of range

#### Alternative 2:

#### Technical Considerations for Alternative 2:

ROM Cost:

to

Note: high end of range must not exceed 200% of low end of range

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### Alternative 3:

### Technical Considerations for Alternative 3:

ROM Cost:

to

Note: high end of range must not exceed 200% of low end of range

### Recommendation

#### Comparison:

Alternative 1	ROM Cost	Risk
	-	
Alternative 2	ROM Cost	Risk
	-	
Alternative 3	ROM Cost	Risk
	-	

#### Conclusions:

1	The Program that will be implemented will meet all of the business drivers of the Department to receive the optimum ROI.
2	The Program will conform to all standards and business plans to ensure consistency and leverage existing infrastructure.
3	The system will be designed holistically and implemented incrementally to ensure success and to deliver business value.
4	

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**Recommendation:**

To proceed with the Environmental and Scientific Analytics Program.

### Project Approach *(if known)*

<b>System Complexity:</b>		System Business Hours: <i>(e.g., 24x7, 9am-5pm)</i> :			
Architecture	<input type="checkbox"/> Mainframe	<input checked="" type="checkbox"/> Client Server	<input checked="" type="checkbox"/> Web Based	Num. of New Databases:	TBD
Technology	<input type="checkbox"/> New	<input checked="" type="checkbox"/> New to Staff	<input checked="" type="checkbox"/> In-House Experience	Interfaces:	TBD
Implementation	<input type="checkbox"/> Central Site	<input checked="" type="checkbox"/> Phased Roll-out		Num. of Sites:	TBD
M & O Support	<input type="checkbox"/> Contractor	<input checked="" type="checkbox"/> Data Center	<input type="checkbox"/> Project	<input checked="" type="checkbox"/> Returned to Sponsor	
Procurement Approach: <i>(consult with OSI Procurement Center)</i> TBD				Number of Procurements:	
Open Procurement?		Delegated Procurement?			
Scope of Contract					
Anticipated Length of Contract:		Years /		extensions for years	